JANUARY 1948

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Firemen

Volume 15 Number 1

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THE N.F.P.A. Department of Fire Record tentatively estimates the 1947 United States fire loss at approximately $700,000,000. Compared with the 1946 fire loss of $554,070,000, this is an increase of about 28.1 percent. This breaks the 1926 record high of $561,980,751, and also is much higher than 1906 the year of the great San Francisco conflagration, with a total annual loss of $518,611,800.

THE cover picture this month (*Press Assn.*) shows a raging conflagration that destroyed some thirty-five frame summer cottages at Salisbury Beach, Mass., not far from the New Hampshire state line on November 8. The picture at the top of the next column shows the burned over area the day following the fire.

This fire is an excellent example of the fact that once underway, a major fire can occur during a pouring rainstorm. High winds fanned the flames which reportedly started under suspicious circumstances. The fire was so hot that it dried out exposed buildings and quickly set them aflame. Flying embers landed a half mile away.

Press Ass'n

Outside help responded from Newburyport, Amesbury, Haverhill, Newbury, Byfield, Ipswich, Rowley, Georgetown, and Merrimac in Massachusetts; and from Hampton, Seabrook, and Portsmouth in New Hampshire. Lawrence, Mass., sent apparatus to cover Haverhill during the fire. After the fire it was found that a 10-in. main leading to the area had broken. The fire loss was estimated at $75,000.

IT HAS been brought to the attention of your editors that a number of fire departments have hesitated to make use of the decided advantages of 1½-in. hose under the misapprehension that various insurance organizations do not favor small hose. There is also the false notion that Underwriters' Laboratories, Inc., does not list such hose.

It is believed that the misunderstanding regarding possible disapproval over the use of 1½-in. hose arises from the fact that insurance inspection departments want at least 1,000 ft. of 2½-in. hose available to utilize the capacity of a 500 gpm pumper. Underwriters as well as experienced fire chiefs want small hose streams backed up by 2½-in. lines wherever hydrants or other water supplies are available. All too many fires have spread beyond control due to "sending the boy on a man's errand" through using booster and other small streams on fires requiring a large cooling action. The same might be said of the all too common practice of using nozzle tips on 2½-in. lines that discharge less than half of the water normally expected from a standard 2½-in. fire stream. A number of the most modern fire departments have come to the conclusion that where a fire cannot be handled with 1½-in. and other small lines they will use 1⅛-in. or 1¼-in. nozzle tips on their "big lines," not ¾-in. tips except when it is impossible to supply a larger size.

None the less, the 1½-in. line with an all purpose fog-straight stream nozzle is becoming the standard line for inside work in many departments. With nozzles now available in new light-weight alloys increasing the mobility of the smaller hose streams, the 2½-in. line is becoming the street supply line and the "back-up" line. A single 1½-in. line has an extinguishing capacity of three or four booster lines and has very nearly the capacity of the smaller tips used on 2½-in. lines.

The Underwriters' Laboratories list of inspected fire protection equipment and materials has the following to say about fire hose sizes: "FIRE HOSE, *Cotton Rubber-Lined Fire Hose for Public and Private Fire Department Use.* Standard Fire Hose sizes, single and multiple-jacketed, 1½, 2, 2½, 3, and 3½-in. Label Service of Underwriters' Laboratories, Inc., applies to Cotton Rubber-Lined Fire Hose. A label is attached to each 50-ft. length of hose."

Rebuilding a Fire Department

by PAUL P. HEINZ, CHIEF

Department of Fire Service, New Haven, Conn.

IT would scarcely be a revelation of a hitherto unknown truth to say that the fundamental objectives of every fire department are, first, to prevent fires from starting, and second, to extinguish without loss of life if possible, and with a minimum of property damage, those fires which do occur. It would also be a commonplace to say that the average departmental officer (and I include myself in that category) should be well aware of his primary responsibilities in respect to achieving these objectives. The question of how effectively we meet our responsibilities, however, is not a commonplace, but is rather an index of our efforts to keep abreast of events in the post-war world.

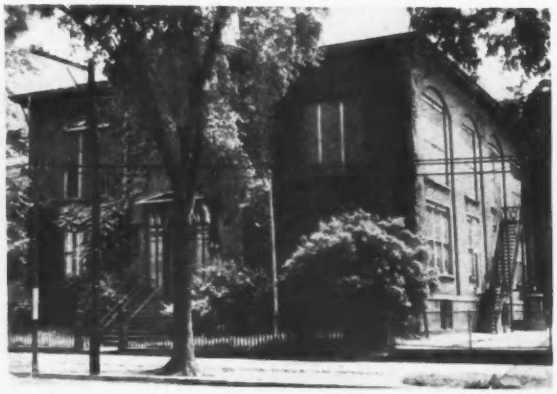
Viewed in the light of accomplishments in this country since the removal of production controls, the peacetime pattern of our national economy gives many indications of becoming a program of vast complexities. New materials, new methods and new industries, many of them the outcome of war-time developments, are making their appearance, bringing with them new problems requiring immediate solution. In some of the new industries, the processing operations and the new and intermediate materials used involve definite fire hazards which impose additional responsibilities of control upon industrial management. Still, we of the fire service, being also closely involved, are expected to be acquainted with these hazards and to be able to cope with any situation that may arise. It is not sufficient to make a correct diagnosis of the cause of a fire; we must know how to handle it when it starts. It is essential, therefore, that we appraise ourselves and our departments so as to determine and increase the measure of our efficiency.

Now how should we proceed with such an appraisal? Obviously there is more to it than a quick glance around, followed up by a requisition for a few trucks and pumpers, thirty or forty additional men, etc., because the fire department is one of the several municipal services which are supported by the taxpayers, and because all fiscal operations of this nature are scanned very closely by the administrative authorities. Money does not flow freely under these circumstances; the normal tendency in most cities is to provide regularly only the "must" items such as payrolls, fuel, hose, water supply, house maintenance and similar recurring charges, and to go sparingly on expenditures for betterments and additions. While this is a condition common to most fire departments and one which must be lived with, it does not in any way constitute a bar to a little progressive thinking on the part of those of us who are charged with the duty of furnishing adequate fire protection. There is, in fact, every reason to warrant our looking the ground over to see if any new hazards have crept in on us, and to decide if by checking our equipment and our operating methods, we may bring them up to date. It is entirely possible, in a good many areas, to do a thorough-going job of rebuilding the department with the facilities at hand. And I may say that on the basis of personal experience such an undertaking will result in a surprising response, not only from the municipal administration but from the public as well.

Preparation for Modernizing Program

The first step in a modernizing plan would be to make a complete inspection of the territory under protection, so as to determine the nature and location of current risks. This would include a study of the direction and scope of industrial development with reference to special hazards and exposures, and in relation to its proximity to high-value and residential sections. All this information should be plotted on a large-scale map. Next, highway conditions should be surveyed, and all intersections, slow-speed areas and other "bottle-neck" possibilities entered on the map, along with the locations of water mains, hydrants, alarm

Before—The old Washington School in New Haven was no longer being used for educational purposes.



After—Remodeled the school provided new quarters for Engines 1 and 11, Ladder 2, and the 1st Battalion Chief.

Before—In March, 1942, old fire house No. 3, bespoke of horse and buggy days with high tower, narrow doorways and inadequate accommodations.

After—In June of the same year, Engine 3 had an attractive 4-door station, modernized inside and out. The old tower has been removed.

boxes and fire companies. When this data has been charted and evaluated, the rebuilding project itself may be laid out, more or less on an eight point plan comprising these main topics: Distribution of companies; remodeling buildings; modernizing apparatus and equipment; expansion of alarm and communications system; training; personnel relations; public relations; and finally, long-range planning. I propose to discuss each of these points briefly.

Distribution of Companies

Special conditions will govern locations of companies, but since it is recognized that motor-driven equipment will permit the assembling of an impressive array of strength at any point within two or three minutes, overlapping of company effectiveness should be avoided. Generally speaking, engine or hose companies will reach any spot within a radius of a mile at about three minutes after an alarm is received; ladder companies will require about 3½ minutes to cover this distance, consequently an analysis of the conditions developed on the map which I have suggested is quite likely to disclose several opportunities for consolidation of companies without impairing the protection service. Needless to say, this will produce economies in maintenance and repair costs, and, perhaps through the sale of buildings, make funds available to underwrite the modernizing expenses. In one instance in New Haven, wherein we were fortunate in being able to acquire an unused school, we consolidated two engine companies and a ladder company, together with a battalion chief's headquarters, and installed them in the remodeled school building, defraying 80 percent of the total cost from the money realized on the disposal of the two fire stations.

Remodeling Buildings

After arrangements have been made for reassignments and amalgamations of companies where feasible, the structures to be retained should be examined for remodeling. Here there are three essentials: improvement of apparatus space, refurnishing of living quarters, and dressing up the outer parts of the building. Wooden apparatus floors should be replaced by cement, with adequate drainage provided for cleaning purposes. Old style swinging doors should be removed and overhead types installed, (automatic or semi-manual operating type). An enclosed watch desk and control booth should be set up near the front entrance to the building, with alarm and communications equipment placed therein. The department carpenter could build this, using plywood or glazed materials surmounted by a glass shield. Name plates could be made up for each person detailed to watch duty, as well as name plates indicating the commanding officer on duty. Gasoline should be stored in an underground tank outside the station, and all replenishing of apparatus fuel done from a metered pump.

Living quarters must be modernized in keeping with the times. Dormitories should be well ventilated and lighted, and should provide a sufficient number of clean beds with comfortable mattresses. Kitchen facilities, complete with electric refrigeration are important; showers and toilets of latest design, suitably separated from sleeping rooms, are a requisite, as are library and recreational equipment. All of these items are necessities, and should not be regarded as refinements; their total cost is insignificant in comparison to the dividends they will bring in improved morale, attitude and cooperation on the part of the men. I think we may safely assume that the spartan days are gone when cast-iron cuspidors were considered to be high-tone parlor accessories.

Exteriors of buildings should be redesigned where possible. Discontinued hose towers, bay windows, and gable-constructed roofs, long associated with the architectural formula of the past century, may be removed without excessive expense, and plain construction substituted. Up-to-date wooden outline letters would be an improvement over metal signs for doorway designations. The so-called gingerbread decorations and trimmings, overhanging copings, etc., should be cleaned off, in the interests of lowered maintenance costs. All wood trim on the outsides of buildings, as well as the doors, should be painted in light colors rather than the dull browns and greys of other years.

Modernizing Apparatus and Equipment

Fire apparatus does not, in the long run, lend itself readily to modernization. The service required of motor vehicles by fire departments differs from that required from commercial and pleasure cars, consequently such factors as economy of operation, weight, etc., are not significant. Pumping engines, on the other hand, are frequently run for long periods at maximum load, so it would seem to be important that such details as valve

(*Continued on page 18*)

Acme

PHILADELPHIA, PA., HIGH SCHOOL

Some 2200 students marched to safety in a fire drill when flames broke out on the sixth floor of the 50 year old Benjamin Franklin School in Philadelphia on October 10. The fire swept into the roof space and observatory tower housing a large 8-inch refractor telescope valued at $10,000, and other valuable instruments. The fire department responded to three alarms and used thirteen hose lines including a heavy stream thrown from the street level, lines taken up aerial ladders and stairways. It is reported that some companies appeared to have difficulty with low water pressure. Eight firemen were injured, most of them by falling pieces of stone.

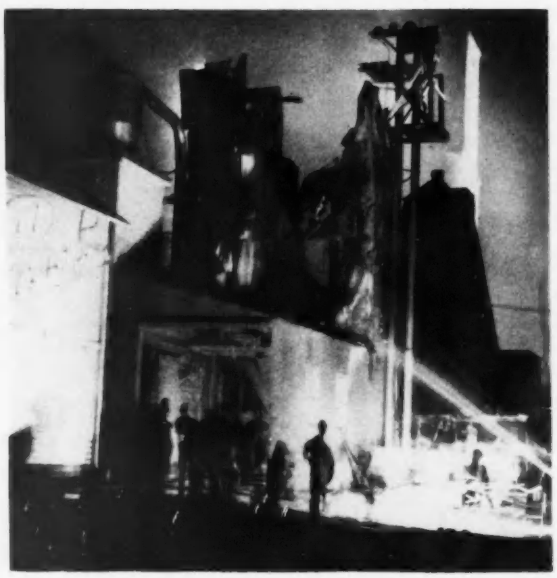
Press Ass'n

REVERE, MASS., AMUSEMENT CENTER

Shortly after 10 P.M. on November 20, the Revere Fire Department received a phone call for a fire in Hurley's Palm Garden, a large three-story frame amusement center overlooking famous Revere Beach. A box alarm was transmitted and upon arrival firemen found that a hot air explosion had caused the fire to involve the entire structure. Multiple alarms were sounded bringing twelve engine companies and other units. According to Chief Thomas J. McCarrick, a brick wall on the south side while solid only to the second floor had much to do with checking the extension of the fire. Twelve hand lines, two deck guns, and one aerial ladder pipe were employed. The owner's wife died of a heart attack during the fire. Loss: $75,000.

YANKTON, S. D., FEED MILL

This fire in a feed grinding and mixing plant started late in the afternoon during a warm Autumn day. The mill was of three-story frame metal-clad construction with open grain elevators and ladder shaft. Workmen discovering fire in a newly remodeled part of the mill attempted to extinguish it with vaporizing liquid hand extinguishers but were unable to cope with the rapid spread of the flames. The photo above shows the fire fifteen minutes after the alarm was sounded and that below shows the ruins two hours later. To observers it appeared that an explosion spread the fire throughout the structure. Chief Cecil S. Bauer reports that the largely volunteer fire department (3 paid men) responded with two 750 gpm pumpers and laid two lines to a deluge set in addition to several smaller streams. However, the hydrant supply was inadequate to provide a satisfactory heavy stream. The fire department moved grain and feed in the adjoining warehouse and built dikes to divert water. The loss was approximately $55,000.



Press Ass'n

RADFORD, VA., HOTEL

Fire occurred in a second floor storage room of the three-story brick walled, wood joisted Dixie Inn, at 7:45 A.M., on November 17. Smoke had been noticed for thirty minutes before the fire department was called by a taxi driver. No call was received from the hotel clerk. Fortunately all occupants escaped from the building. According to Chief W. W. Garden the fire department upon arrival "found smoke boiling from the back of the building over the furnace room and storage room." Hose lines were laid through the alley to the back of the building but due to the headway of the fire the walls soon fell and trapped all hose lines leading to the fire. Four firemen were slightly injured. Fortunately, there were adequate hydrants on large mains to supply six pumpers. The loss was estimated at $159,000.

NAMPA, IDAHO, EXPLOSION

Six persons were killed and more than thirty-five others were injured when an explosion occurred while a truck was delivering propane gas into the 155 gallon storage tank of a restaurant. According to Chief L. T. Lessinger the truck and storage tank appeared to be unaffected by the explosion which wrecked the building. Gas from a leak may have been ignited by fire in a coal furnace or by smoking. It is said that the delivery hose was not tight to the tank fill connection. Fortunately no fire followed the explosion but the fire department worked for many hours removing the victims in the wreckage. This explosion is another instance of disastrous results where provisions of N.F.P.A. Standards for Liquefied Petroleum Gases have been overlooked. This tank which was being filled was in a pit immediately adjacent to the basement wall of the restaurant and beside a window leading into the basement. According to N.F.P.A. standards the tank should have been at least 10 ft. from this building. Loss $90,000.

Press Ass'n

Press Ass'n

CHICAGO, ILL., APARTMENT

Four women and six children died in this fire at 12:08 A.M. on October 10, when flames of undetermined origin swept up open stairway and light shaft to upper floors. According to Chief Fire Marshal Anthony J. Mullaney, a citizen gave the first alarm by telephone and this was followed by a "3-11" alarm. Eight hand lines and a turret nozzle stream were used to control the flames in the unsprinklered structure. Damage is estimated at $14,000 but is reported that only $320 insurance was carried.

Press Ass'n

PHILADELPHIA, PA., DORMITORY

Six homeless men lost their lives and two other occupants and a fireman were injured when fire of undetermined origin swept dormitories of the Volunteers of America at 1:03 A.M. on December 1. The four story brick-walled wooden-joisted building was without sprinklers and according to Chief Engineer John C. Cost fire starting on the first floor spread to dormitories above before alarms were received by the Fire Bureau. Combustible materials in a first floor repair shop where used materials were salvaged added to the flames. Twelve engine, four ladder, and a rescue company responded and fourteen hose streams were used.

Taking Suction Overboard

Suggested by
Assistant Chief Walter Carr
Norfolk Naval Shipyard

THE method shown on this page for placing hard suction hose overboard for drafting from a pier was first published in Fire Marshal Bulletin No. 12 of the Fifth Naval District at Norfolk, Virginia. The method eliminates the necessity of pulling the pumper close to the pier edge while the suction is being connected. This is important because it is extremely difficult to connect a heavy hard suction hose where there is not ample room between the side of the machine and the edge of the pier.

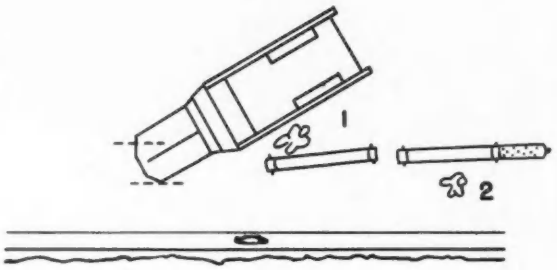
Under the method shown the pumper is brought into approximate position with front wheels parallel to edge of pier. After the suction has been connected and the support line pulled out the truck completes its swing into position and the suction sleeve is placed overboard.

This method is particularly advantageous where there are only two men available to wrestle with the hard suction hose. While it is never considered good practice to straddle regular delivery hose, it may be necessary to straddle suction hose as shown, due to its weight and bulk.

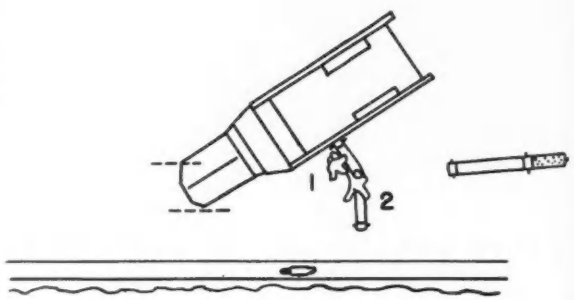
Where there is no bollard or other support handy to secure the support line attached to the suction strainer, the line should be made fast to some part of the apparatus to keep the strainer off the bottom where it would pick up foreign substances.

A little practice with this evolution may save critical seconds when a fast spreading fire occurs along the waterfront. A number of fire departments are specifying front or rear suction connections on their pumpers to facilitate drafting.

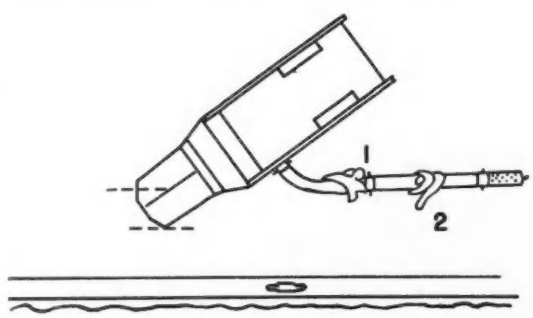
Pumper pulls in with front wheels parallel to pier side, body at 45-degree angle. Both suction sleeves are removed and placed on ground.



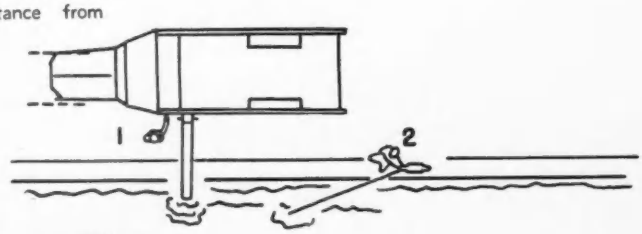
No. 2 man balances suction sleeve between legs, 4-feet behind coupling. No. 1 man connects sleeve to pumper. (If suction inlet is very high No. 2 man cannot straddle.)

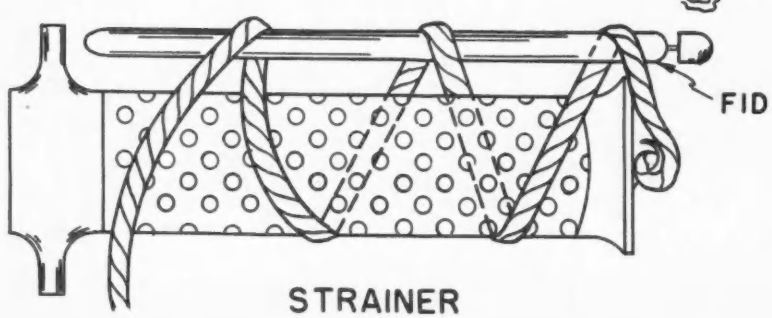


No. 1 man bends first suction sleeve and straddles at male end. No. 2 man straddles second suction sleeve 4-feet from coupling and balances it. No. 1 man makes coupling.



Suction sleeve is dropped over side. Pumper pulls ahead on pier to come close to edge if necessary, due to distance from water.





Suction strainer is carried attached to suction sleeve where pumper must take suction often. Suction sleeve support line is made up in a series of reverse loops around a fid (use a broomstick). When the fid is pulled out, the line falls free. (Sketch expanded to show detail of turns that actually are drawn up snug.)

$500,000 State Pier Fire at Portland, Maine

FIRE believed due to smoking caused $500,000 or more damage at the State Pier at Portland, Maine, on October 23. A fireman on watch at the city fireboat, nearby, sounded an alarm at 8 A.M. A minute later a waterflow alarm was received at a central station supervising the sprinkler system.

Flames starting at the outside end of the pier, flashed along the outside of large frame pier shed and through creosoted timbers beneath the shed. Some 500 sprinklers on a dry pipe system in the shed saved a considerable part of the shed but the unsprinklered substructure was seriously damaged.

However, flames jumped a 20-foot space to a 440-foot long metal clad shed on opposite side of the pier. Due to the heavy demand upon the water supply there was insufficient water for sprinklers in this shed where some 500 additional heads opened. Accordingly this shed and contents were badly damaged. A brick fire wall with openings protected by fire doors backed up by the operation of 50 sprinklers prevented spread of fire to a large two story shed adjoining.

The fire department responded with 9 engine, 4 ladder, and 1 rescue companies to three alarms sounded in record time. The second alarm was radioed one minute after the first. The third followed when the district chief arrived two minutes later. South Portland and Cape Elizabeth fire departments responded on mutual aid assignments. The fireboat used 4 monitor nozzles. Three Coast Guard vessels assisted.

Press Ass'n

Department Store Blaze in New Zealand—41 Dead

FIRE protection authorities who for years have speculated upon the possibilities of large loss of life from an outbreak of fire in a large department store loaded with combustible merchandise had their nightmare come true at Christchurch, New Zealand, on November 18, when fire destroyed the large Ballantyne Brothers Department Store killing 41 persons.

The cause of the fire was not determined but it is reported that dense black smoke suddenly burst from the roof and windows of the upper floor. Great sheets of flame quickly enveloped the structure driving back firemen who had placed ladders to the upper floors in an attempt to rescue the screaming occupants. It is stated that a number of persons jumped from the upper floors of this three and four story structure in an effort to escape the flames.

Christchurch is the largest city on the South Island of New Zealand, having about 116,500 population. It is protected by a metropolitan fire district which in 1945 had 6 stations, 14 pieces of apparatus, 60 paid firemen and 36 volunteers.

No details are as yet available regarding the arrangement of exits or the internal protection of this building having masonry walls but combustible interior construction. A chief reason for the comparatively favorable fire record of great department stores in America has been the provision of automatic sprinkler protection much of which is under central station alarm supervision. Fire department inspectors also have given special attention to life safety in department stores.

It may be observed from the photograph that the outside hose streams are not adequate to cope with a blaze of this magnitude.

Press Ass'n

"Plan H" in Operation

Washington, D. C., Fire Department Plans More Efficient Heavy Stream Service for Large Fires

FROM time to time almost every urban fire department is faced with the problem of quickly developing heavy streams for combatting large fires. In many cases it has happened that companies first on the scene have taken the nearest hydrants and have gone to work with hand lines in an initial attempt to hold the fire by a prompt attack from the inside. Then when it becomes apparent that heavy streams may be needed to back up the first response, there may be delay in getting sufficient lines from pumpers properly placed to supply the desired capacity and pressure. There are almost always certain operational problems when it becomes necessary to supply both hand lines and heavy stream devices from the same pumpers. For these reasons as well as the time factor involved, many fire departments are reluctant to attempt to use adequate heavy stream devices requiring siamesed lines on many occasions where such use is warranted by the size of the fire.

A few large cities have separate water mains for fire service which can supply large quantities of water direct from hydrants at high pressures without the use of pumpers. However, the cost of such systems is beyond the means of most communities which must use automobile pumpers to boost domestic water pressures when heavy streams are needed. However, unless such pumpers can be placed within a few hundred feet of a fire, they will be forced to use much of their energy to provide pressure to overcome friction losses in hose, with materially reduced output in gallons per minute. Many pumpers deliver only half as much water at 200 psi as they can deliver at 120 psi.

Assistant Drillmaster A. M. Grunwell, Chairman of the Washington Fire Department Water Supply Board, makes Pitot tube reading of performance of water tower pipes. Following tests, both tower trucks were completely overhauled and placed in A-1 condition.

WHEN Chief Engineer Clement Murphy took command of the District of Columbia Fire Department in 1946, he promptly appointed a board of fire department officers to make a study of problems related to obtaining adequate water at fires in all sections of Washington. One result of this study was the apparent need for more efficient methods of quickly developing heavy streams from water towers, ladder pipes, and aerial ladders.

Several large scale tests were run during 1946, simulating multiple alarm fires requiring water towers and other heavy stream devices. (See FIREMEN, November 1946, page 14.) The tests also included careful measurements of available hydrant flows and pressures obtainable through pumpers in high hazard areas representing both strong and relatively weak water supply conditions.

By direction of Chief Murphy, these tests were under the direction of Captain A. M. Grunwell, assistant to the chief of the department's training division. Last winter, Captain Grunwell headed a detail of Washington firemen sent to the Fire Service Training Center at the University of Maryland for the purpose of developing a training manual for pumper operators.

This manual when completed became the textbook for the Washington department's new school for pumper operators, believed to be the most complete program of its kind in any city fire department in the United States.

The special operational plan for the development of heavy streams at major fires known as "Plan H," was placed in operation during 1947. Briefly, a tender truck consisting of a reserve 1,000 gpm pumper from which the former chemical equipment had been removed and having a divided hose body loaded with 3-in. hose was provided for Water Tower No. 1.

This pumper is operated by a member of the regular water tower crew. It also serves as a fireboat tender to utilize the pumping capacity of the fireboat in high hazard areas along the waterfront by means of the 3-in. hose.

In addition, under Plan H, whenever the tower responds to an alarm, the fire alarm office dispatches the nearest available engine company with a 1,000 gpm pumper (which also has a smaller pumper serving as a hose truck). This company acts as a tower tender company to provide both manpower, hose, and pumping capacity to place both the mast and deck nozzles of the tower in service without delay. Plan H also provides for quickly manning and dispatching the reserve tower upon request from the officer in command at the fire.

In order that the pumpers assigned to supply the heavy duty streams may be placed as near the fire as practicable and thereby operate at full rated capacity, orders have been issued that first alarm companies will place a gate valve upon a spare hydrant outlet whenever connection is made to a hydrant. This permits the pumpers of the heavy stream service to move in much closer than was possible on many former occasions when pumpers as much as two blocks from a fire attempted to supply heavy streams.

It should not be understood that Plan H relieves other fire companies of possible heavy stream work. Every engine and ladder company is equipped for heavy stream operation but normally would use somewhat smaller nozzle tips for wagon and ladder pipes than are provided on the water towers.

AN excellent test of Plan H occurred recently when a man ran into the quarters of Rescue Squad 1 and reported a bad fire on the third floor of a heavily stocked department store warehouse, a very old 5-story brick walled structure with wood-joisted

"Plan H" or heavy stream operational plan of the Washington, D. C., Fire Department got a workout at this recent 4-alarm fire. Note lines of 3-inch hose laid by water tower tender.

floors. The captain of the squad immediately ordered a box alarm which was followed two minutes later by a second, and within ten minutes by a fourth alarm as the seriousness of the fire was quickly apparent. The fire had started on wooden storage shelves containing loose scatter rugs and gained headway while employees fought flames with hand extinguishers.

Despite protection of the latest type masks, the first arriving companies took such severe punishment from the intense heat and smoke that Chief Murphy was compelled to order withdrawal of inside lines and chiefly to depend upon heavy streams to check the intense fire.

Within 8 minutes after arrival, the water tower had been placed in position and was discharging 2,200 gpm. through mast and deck nozzles supplied by ten lines of 2½-in. and 3-in. hose, mostly from pumpers stationed at the gated hydrants close to the fire. Within a few minutes after firemen were ordered from the building, the structure heavily loaded with stock began to collapse.

In addition to the heavy duty section provided through Plan H, the fire was fought by twenty engine and five ladder or "truck" companies. A study by the District Water Division indicated that approximately 9,000 gpm was utilized at the height of the fire. Also where two pumpers were connected to the same hydrant the lowest residual pressure recorded was 14 pounds. During the fire, the truck companies performed salvage operations in adjoining buildings. Loss to the warehouse and contents was estimated at $105,000.

Obviously, a plan for heavy duty streams requires considerable study, field tests, and engineering effort including consultation with the Water Division, to ascertain that apparatus, hydrants, and water supplies are ample for the purpose in mind and are used efficiently. However, the District Fire Department under Chief Murphy has found that fire ground results justify the effort involved.

Incidentally, Plan H did not require any additional manpower or equipment beyond the purchase of a limited amount of 3-in. hose.

Is Your Community Claiming Excise Tax Exemptions?

THE *Michigan Municipal Review* points out that many municipalities are still paying unnecessary federal excise taxes on purchases of automobiles, tires, transportation, and other items. In addition, cities are not exercising their right to recover the tax unwittingly paid on such items purchased within the past four years.

If your city or village is buying any of these taxable goods, it should make arrangements to claim the federal excise tax exemption to which municipal governments are entitled. These tax exemptions, regularly claimed add up to a considerable saving even for the small municipalities.

Here are some of the commodities which may have been purchased for municipal use and the tax rate on each: gasoline per gallon (1½); lubricating oil, per gallon (6 cents); telegraph, long-distance telephone, cable and radio messages (25 percent over 25 cents); local telephone service (15 percent); tires, per pound (5 cents); inner tubes, per pound (9 cents); truck and bus chasis and bodies (5 percent); automobile and motorcycle chassis and bodies (7 percent); automobile parts and accessories (5 percent); radio sets (10 percent); photographic apparatus and films (25 percent); pistols and revolvers (11 percent); electric, gas, and oil appliances (10 percent); business machines (10 percent); electric light bulbs (20 percent); and transportation of persons on official business (15 percent).

To obtain the tax exemption, it is necessary only to submit a signed exemption certificate with the purchase order or when the bill is paid, and deduct the tax. The tax may also be recovered if it was paid on taxable commodities purchased within the past four years.

Farm Fire Protection in Wisconsin

By Norton T. Ames

An insurance agent with twenty-five years experience as a volunteer fireman, Mr. Ames made the following address by radio during Fire Prevention Week.

ONE winter afternoon about eight years ago, I stood on the roof of a good farm house, watching a small fire in the gable end. The blaze was not too enthusiastic, and we were able to hold it with a small stream of water. Unfortunately, our water supply was limited to the 150 gallons in the booster tanks on the fire truck.

The farm stock tank was nearly dry. It usually is. Three strong men grabbed the pump handle, and the pump rod promptly broke. In time the fire drove us off of the roof, and a substantial farm dwelling burned to the ground.

It seemed so futile, so depressing good fire equipment, ample firemen, but no water. It was discussed at the next meeting of our volunteer fire department, and a committee was appointed to call on the chairmen of the four adjacent townships. In 1940 these four townships put in $350 each, purchased a new Frod truck chassis and cab, mounted a 960 gal. tank, and on a deck along the side provided 18 milk cans for water. Every year since, it has more than returned its cost in farm property saved.

In September we were called to a farm house struck by lightning. The alarm was delayed at least 20 minutes; the roads were slow; and as we approached, the gable and roof were blazing merrily. It was much more hopeless than the house looked eight years before.

But this time, instead of 150 gallons, we carried 1,200 gallons and equally important, neighbors came armed with milk cans of water from their own farms. Three milk haulers loaded every can that they had onto their milk trucks. We had three larger streams of water this time, all of the water we needed. Two days later the roof had been replaced, and a precious farm habitation was saved.

This tank truck answers every rural alarm with our pumper. The water is immediately available. I wish that we might see more of these tank trucks in the village volunteer departments for rural service.

Farm fire cisterns? Yes, excellent, but in twenty years I have never been able to talk convincingly enough to induce a single farmer to build a fire cistern. Such a resevoir should preferably be of 10,000 to 20,000 gallon capacity, and kept full.

Our 1945 Wisconsin Legislature authorized rural townships to contract with a nearby village for fire service. If they do not so contract, and do not otherwise provide fire protection, then the township is liable for reasonable charges for fire service rendered on call from an adjacent village department.

Fire protection is a function of good government, the same as police protection. Farm values are entitled to the best fire protection possible. They are entitled to better than they are now receiving, and it should be at public expense.

One hundred fifty years ago insurance companies maintained, in our larger cities, their own fire departments. The individual had a metal plate over his door indicating his insuring company. If the firemen from another insurance company responded, and they observed the different plate over the door, they often retired to the other side of the street and watched the building burn.

Continued on page 15

"Who's Who" on the NFPA Staff

This is the ninth in a series of staff NFPA Executive Office at 60 Batterymarch St., Boston. These are the men who write and edit the books, magazines, posters, and pamphlets published under the insignia of the National Fire Protection Association. These are the men to whom you can turn for answers to your fire fighting, prevention, or protection problems.

CHESTER I. BABCOCK, a comparatively recent addition to the NFPA staff, took up his duties in the Fire Record Department in July, 1946. Despite six previous years of close association with the fire fighting service, he states that prior to his association with the NFPA, he had no conception of the magnitude of the field in which he had chosen to serve. Mr. Babcock insists that whatever progress he has made toward mastering the intricacies of fire prevention and fire protection during the intervening period can be attributed primarily to the patient help of his colleagues.

During the period 1940–1946, Mr. Babcock was employed by the Boston Protective Department which he claims with justification to be one of the outstanding salvage corps in the world. It is his conviction, first acquired during his association with the Boston salvage company and fully substantiated since his association with the NFPA, that salvage is an extremely important phase of fire fighting and should occupy a position of prominence in the operations of a progressive fire department. While with the BPD, Mr. Babcock devoted most of his attention to the Fire Record Department and assumed the added duties of assistant treasurer in 1944. He modernized the method of compiling Boston fire loss statistics and developed many tables of Boston fire loss experience that have been of assistance to those concerned with reducing fire fatalities and property damage in that city. He is convinced that a community that fails to develop machinery for making careful analyses of its fire experience is not taking advantage of the best available guide to means of solving its individual fire waste problems.

Mr. Babcock majored in chemistry at the University of Massachusetts and at Harvard. Because of the many applications of chemistry to fire prevention and protection, his formal study in that field has been a valuable addition to his training for his present position.

Continued from page 14

This was wasteful and not good American government. It is not the function of insurance companies to fight fires. Fire protection should be provided at public expense for all of its citizens.

As a volunteer fireman for twenty-five years, I can see the mutual advantages in the village department serving both in the village and in the surrounding rural territory. We feel that losses to our farmer friends are our losses too, and we depend on farmer trade and good will. Then there is that satisfaction to our self esteem that comes helping some one in need.

Some 60 percent of our calls are rural. These additional calls are a spur to fireman training and to good maintenance of equipment. There were four years when we had only one call in the village. One year we had none. A department would rust out and fade away under such conditions.

On the other hand, a fire department requires considerable capital expenditure, not only in the truck alone, but in the small equipment, hose, fittings, and other items which make the truck effective. The maintenance and insurance costs are considerable. To furnish the same service a rural township would have the further serious problems of fireman training and of immediately available man-power to adequately answer alarms.

Rural service is harder on trucks, hose, and firemen than a similar call in the village. There are more miles traveled, and they are harder miles, more hazards to firemen, more time required at the fire and in servicing the equipment afterwards, plus cold, and snow, and muddy barnyards.

There is a wholesome interdependance between village and country, and there are equitable ways of sharing the financial burdens and in sharing the benefits of a good fire department.

FOR SALE

1926 Stutz Hose and Ladder, completely equipped. 263 ft. of ladders, 40-gal. booster tank, CO_2 pressurizer. Good rubber. Now in use. Available February.

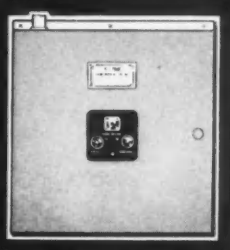
1924 Stutz Hose Truck. 75 H.P. Motor; 1000 ft. 2½ in. hose body; two 40-gal. booster tanks; CO_2 pressurizer. Good rubber. Now in use. Immediate delivery.

$2000 for both trucks or can be purchased separately.

Inspection by appointment, Village Clerk, Sea Cliff, Nassau County, N. Y. Tel: Glen Cove 80.

• Smoke is usually the first sign of fire —often it's undetected till it's too late. Valuable fire fighting minutes are lost because no one sees the fire start. C-O-Two is on guard all the time. With a complete C-O-Two detecting and extinguishing system, extra-hazardous areas and extra-valuable properties are safe from fire. The C-O-Two Smoke Detector *continually* draws air from the protected space. It picks up the first whiff of smoke and sets off visible and audible alarms. Automatically or manually released, cold, dry carbon dioxide gas-and-snow blankets the space and puts out the fire. It's over in seconds with no damage to buildings, equipment or material.

If you have record or blueprint vaults, flammable liquid storage rooms or enclosed spaces for valuable material, let one of our fire protection experts discuss with you your particular problem. Write us today for more information.



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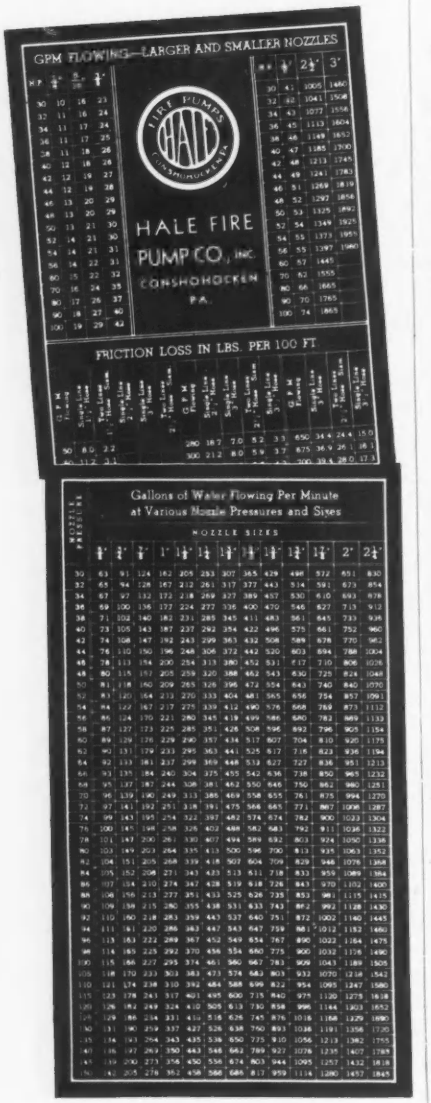
A USEFUL CARD FOR ALL FIREMEN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HALE FIRE PUMP CO., INC.
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FRICTION LOSS IN LBS. PER 100 FT.
Gallons of Water Flowing Per Minute at Various Nozzle Pressures and Sizes
NOZZLE SIZES

The Hale Water-proof Nozzle Pressure Card shown above is pictured half size. Tables tell at a glance the G.P.M. flowing at various Nozzle Pressures and sizes; also Friction Loss in lbs. per 100 ft. at hose.

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Please send me, without obligation, a Hale Nozzle Pressure Card.

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HALE FIRE PUMP COMPANY
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Fire Pumps in all standard capacities
Form NPC.

MEMBERSHIP REPORT

YOUR company can start the New Year right by enrolling every man in the Volunteer Fire Company Section of the National Fire Protection Association, which membership entitles ten men to receive a year's issue of FIREMEN. It is desirable that all men have access to it. This is made possible by payment of a dollar a year for every additional man enrolled with your company beyond the first ten.

At present, membership is at 1,357 companies enrolled with 21,437 men receiving FIREMEN magazine.

New members of the Volunteer Fire Company are:

Brushton Fire Dept., Brushton, N. Y.
Civilian Navy Base Firefighters, Phila., Pa.
Civilian Navy Firefighters, Croydon, Pa.
Ellicott City Vol. Firemen's Assn., Inc., Ellicott City, Md.
Fairview Fire Dept., Poughkeepsie, N. Y.
Midway-St. Clair Fire Dept., Greensburg, Pa.
Roseville, Swan, Pt. Pleasant & Ellison Fire Protection Dist., Roseville, Ill.
U. S. Navy Base Fire Dept., Phila., Pa.
West Lanham Hills Fire Dept., W. Lanham Hills, Hyattsville P.O., Md.

National Fire Protection Association, International
Associate Membership
VOLUNTEER FIRE COMPANY SECTION

($10 annual dues) Eligible:

(1) all bona fide volunteer fire organizations in any community.

(2) all fire departments and companies in communities of less than 25,000 population.

(3) all industrial fire brigades.

Member volunteer fire companies receive ten copies of FIREMEN magazine each month, mailed to the homes of individual firemen. Beyond the ten, additional copies of FIREMEN cost $1 per year.

Volunteer Fire Company Section members, receive, at their headquarters, one copy of all publications sent to NFPA associate members.

ASSOCIATE MEMBERSHIP ($10 annual dues) Eligible: Individual fire department officers, firemen, and others interested in fire safety. NFPA associate members in the fire service receive one copy of FIREMEN magazine monthly, the NFPA **Quarterly**, the monthly **News Letter**, technical standards, popular bulletins and posters.

All associate members have one vote in Association affairs.

Dick Erickson *McNaught Syndicate, Inc.*

"And I suppose you left my football suit in there to burn!"

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FIRE HOSE DRYER

WRITE FOR BOOKLET
Illustrates how Circul-Air saves hose, shortens drying time, prevents mildew and rot, air conditions as it dries, improves station design.

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Only 72 ounces
Will not spill in ANY position

Battery change in 10 seconds without returning to factory

NON-SPILLABLE **RECHARGEABLE**

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Write for new Emergency Lighting Bulletin

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New Firemen Training Technique Followed by Miami, Fla.

In the following item reprinted from Florida Firemen magazine for October, Chief Henry R. Chase of Miami reports on a successful new plan designed to bring the training program closer to the needs of the fire fighter, and to bring about a more unified training program in which all officers and men participate.

WE have all heard the remark "I have no drill tower so cannot train my men the way I would like to."

Brother, in my book, I feel you have a very poor excuse; I do not believe a drill tower is necessary in order to train your men. Drill towers are very nice to look at and if you have one, go ahead and use it, but if you don't, that does not mean you are justified in not carrying on a training program.

If you have several stations, why don't you use one as your Fire College — put up a nice sign so that the public can see it, stating "Miami Fire College" or whatever the name of your city or community is. Then take your Drillmaster, and if you don't have one get one as you need him, put him in charge of your training program then give him some officers. We use five, and use the station that houses a pumper and ladder company.

Keep some well trained drivers at your school, but make up the balance of the company with men that are most in need of a training course.

We start the program with proper pole sliding, bed making, watchman's duties, station rules, station courtesy, apparatus positions, housework, K.P. duty, equipment checking, and Roll Call formation. All of these operations are standardized in every detail.

These companies from the first day take their fire calls for buildings, however, do not respond to grass fires, etc., for the first couple of weeks. By this method we are not reducing our company strength.

The instruction received by new men covers about an eight-week period, then a new crew is assigned. One officer is put back on combat duty and another added to the teachers' list. By this plan, we believe we will eventual'y have the entire department working under the same methods and in station schooling all officers of the entire department will be giving the

Continued on page 18

It's the NEW O-47-A AKROLITE
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BOOSTER FOGNOZL

FIREMAN FRANKIE SAYS:
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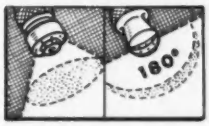

CIRCULAR TIP No. 47-14 FAN TIP No. 47-9

CHOICE OF:
1. STRAIGHT STREAM TIPS 1/8"-3/16"-1/4"
2. FOGTIPS—FULL CIRCULAR FOG PATTERN OR WIDE FAN TYPE (Ideal for brush and grass fires).
3. THREADS 3/4" OR 1"

CUT YOUR EQUIPMENT COSTS!
JUST ONE NOZZLE FOR EITHER LOW OR HIGH PRESSURE BOOSTER LINES.
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FIRE OUT... Stays OUT!

The all-climate, dependable
MECHANICAL FOAM
PRODUCING LIQUID

It flows—covers—seals—extinguishes » » » Highly effective on oil and gasoline fires » » » Use with any kind of water—at any temperature—in all makes of equipment.

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MIDWESTERN
Protective Clothing
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Every Midwestern product combines the thoughts and suggestions of practical Fire Chiefs and firemen from every section of the country . . . and every purchaser profits from years of Midwestern research and experience. That is why the famous Mackinaw Coat and other Midwestern clothing have embodied in their design every feature necessary for the protection and comfort of firemen.

In our vast selection of crude rubber materials you will find a type of fabric suitable for your climate and needs. The softness and flexibility in the high-grade materials used are your assurance of long time service and comfort. Many Fire Chiefs are now including Midwestern clothing in their regular yearly budget and by placing your order early you can be assured of this adequate protection when needed.

For complete information have your Midwestern dealer show you our new garments now manufactured from crude rubber compounds. A letter to the factory will also bring you material samples for your inspection.

We now have available: White, Ivory and Brown crude rubber coats for Chiefs, Assistants and other officers; also all sizes short and ¾ length felt lined Firemen's boots for immediate shipment.

NONE GENUINE WITHOUT THIS TRADE MARK

MIDWESTERN MFG. CO. MACKINAW ILLINOIS

Manufacturers of the Famous MACKINAW Coats

Miami Fire Training Technique

Continued from page 17

same methods of training as given at our Fire College.

The men assigned to the college work the same hours as the men in the other stations except, they have classes at night as well as during the day time. The other companies attend the fire college and they are required to do the standard evolutions as set up by the Drillmaster. However, their drills are observed by the Fire College students with the result that the companies are always doing their very best so that the students will have the high mark to shoot at.

We like the plan and have found it a big improvement in the over-all efficiency of our department since starting this program.

Editor's note.

Other fire departments are coordinating their fire fighting and training programs more closely. An engine company and a ladder company have been stationed at the Detroit drill school. Each day, as part of the training program, three men assigned to the drill school are designated to respond with these companies in the event an alarm is received.

Rebuilding a Fire Department

(*Continued from page 7*)

construction and adjustment and the design of cooling systems be given careful thought. Since it ordinarily happens that apparatus becomes obsolete before its mobility gives out, the best procedure in this connection is to schedule the replacement program on a definite basis, setting aside annual budgetary allowances for new machines. Accessory equipment, though, may well be kept in line with developments.

The heavy leather helmet, adorned with the brass eagle and the fancy facade must give way to the light streamlined plastic helmet, and the long cumbersome grandma-style rubber coats should be replaced with the short knee-length coat provided with white stripes for night-time visibility. Another necessity which must be provided is up-to-date breathing equipment. No longer is the canister-filter type mask adequate for modern risks where oxygen deficiency is likely to prevail. To meet this new hazard two types of masks have been produced, both of which have proven satisfactory

under test. One of them is a self-contained air mask carrying an hour's supply of air under pressure in a tank strapped on the back of the wearer, while the other is a canister type which generates oxygen through a chemical reaction, also for one hour use.

Expansion of Alarm and Communications System

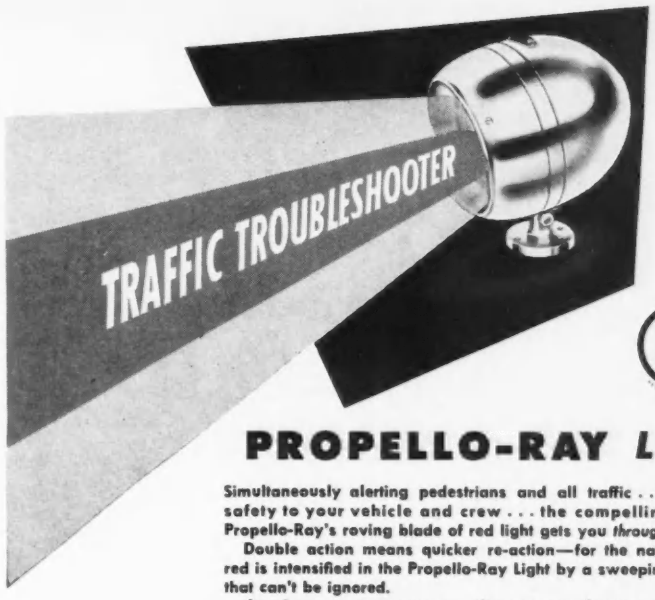
The alarm and communications division is one of the most vital branches of the service, but it is one which is likely to receive the least consideration. Except in the larger cities, too much dependence may be placed upon the telephone, which despite its efficiency is oftentimes responsible for delays in getting apparatus to the scene of the blaze. It is perhaps unfair to blame the telephone rather than the user for the loss of time in dispatching the fire department, but any central bureau operator will tell you that the toughest part of his job is getting the person calling to answer the question: Where is the fire?

The alarm box system is the one sure, safe, dependable link between the public and the fire department, but it may be supplemented by teletypewriter loops for permanent recording of signals and messages. Mobile radio is an absolute necessity for rapid reporting of conditions at the fire and for deploying of special apparatus. The teletypewriter provides instantaneous two-way communication between headquarters and all stations, and may be used in emergencies for transmission of alarms as well.

Efficiency in alarm and signaling systems would best be promoted by a method of making a permanent record of all messages and orders. The teletypewriter lends itself to this idea for all outward communications traffic, while there are several devices now available for recording inward business. Wire and disk recording are two of the most practical of these.

For purposes of long-range planning, or even for speculation, the prediction may be ventured that war-time advances in electronics will find wide application in the field of fire service communication. The time may not be far away when alarms from street boxes will be sent to headquarters by ultra-short wave, with groups of ten or twelve boxes acting on a unit-circuit broadcasting basis, taking power from local supply lines, with reserve battery for emergencies.

(To be continued)



PROPELLO-RAY *LIGHT*

Simultaneously alerting pedestrians and all traffic . . . while insuring safety to your vehicle and crew . . . the compelling effect of the Propello-Ray's roving blade of red light gets you *through*.

Double action means quicker re-action—for the natural warning of red is intensified in the Propello-Ray Light by a sweeping, rotating beam that can't be ignored.

Any hour . . . any season . . . the urgency of your call is dramatically announced with scintillating silence . . . there are no noisy gears or complicated parts in the high candlepower, sealed-beam Propello-Ray Light. All moving parts are handsomely encased in streamlined chrome weather-proof housing to guarantee dependable, satisfying service.

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Chip In For A "Station" SHERIDAN

Matched barrel and bullet assure high degree of accuracy.

ACCRAUCY—HIGH VELOCITY—LOW COST

Sheridan presents an accurate, quiet, high velocity, small-bore rifle with *Controlled Power*. Its usability and shooting economy will soon make this safe Target-Sporter your favorite arm. Over-and-Under construction; wt. 6 lbs.; compact length 37"; beautiful walnut stock; alloy steel valves; adjustable sight and trigger-pull; "shotgun" safety; fast lock-time; quality-built. If your Dealer does not yet have the Sheridan, send $56.50. Money back if not satisfied after inspection.

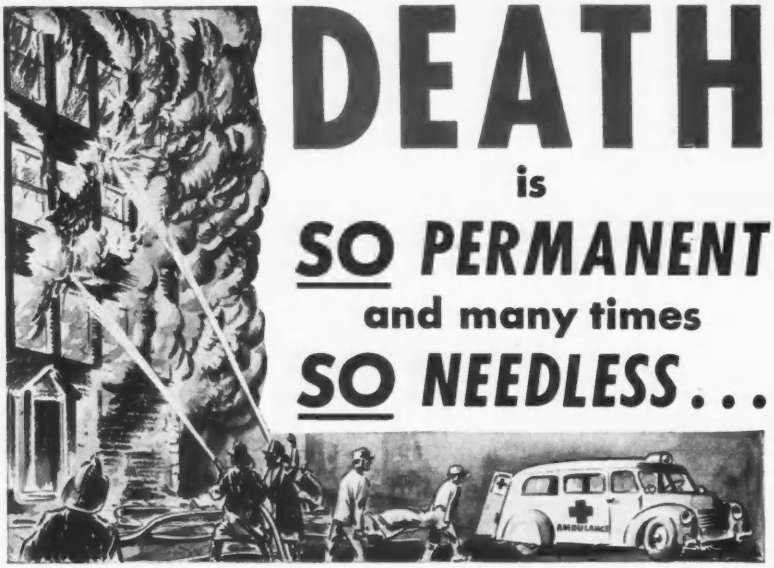
Sheridan *controlled* power: result of 2, 3, 4, 5 piston strokes in 1" soft pine.

5 m/m AMMUNITION has conventional bullet-shape. The Sheridan pays for itself with low-cost shooting ($4 per thousand rounds).

Include an inexpensive, no-splash "Targetrap" and targets

SHERIDAN PRODUCTS, INC.

Dept. 58-A • RACINE, WIS.



DEATH
is
SO PERMANENT
and many times
SO NEEDLESS...

A *Scott Air-Pak* should be used
FIRST NOT LATER!

● Designed as fighting equipment, the Scott Air-Pak should be used on arrival at a fire, *not after* men have collapsed from deadly fumes or choking smoke. Instantly ready for use, the Scott Air-Pak delivers fresh, cool *air* (not oxygen). Each inhalation provides *all* the fresh air demanded by its wearer, regardless of age, physical condition or lung capacity. Therefore use of the Scott Air-Pak is not restricted to younger men, or men in top physical condition.

Wire or Write for a Demonstration

BUREAU OF MINES APPROVAL No. 1308

ONLY THE SCOTT AIR-PAK HAS ALL 6 FEATURES

1 Can be used in any temperature from below zero to oven heat.

2 Only the Scott delivers fresh, cool, confidence-inspiring air.

3 Only the Scott has a gauge on the cylinder to prevent the inadvertent use of empty or partly empty cylinders.

4 Only the Scott has acid and corrosion proof straps and fittings.

5 Only the Scott has a battle-tested emergency proved regulator, and a mask permitting conversation.

6 Only the Scott has a gauge within the wearer's vision; custom-built, not a commercial gauge, to provide the maximum in utility and safety.

SAFETY EQUIPMENT DIVISION

SCOTT AVIATION CORP.

236 ERIE STREET, LANCASTER, N. Y.

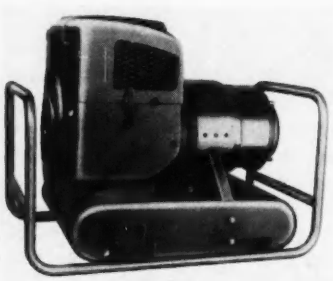
Established in 1932
Scott
FOR SAFETY—FOR SERVICE

"THERE CAN BE NO COMPROMISE WITH QUALITY WHEN A LIFE IS AT STAKE"

MANUFACTURERS' ANNOUNCEMENTS

Duo-Safety Publishes Catalog

The Duo-Safety Ladder Corp. of Oshkosh, Wis., has recently published a series of illustrated data sheets on its broad line of all-aluminum and wooden fire ladders. These sheets have been bound into a jacket of standard letter folder size for convenience in filing. The company has already made a substantial distribution of this catalog to fire departments and would be glad to send a copy to any fire department that does not presently have a copy.



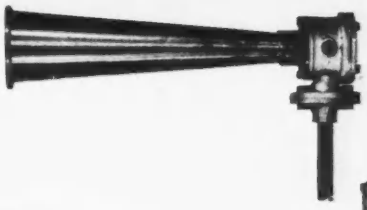
New, Lightweight, High Capacity Electric Plants Announced by Onan

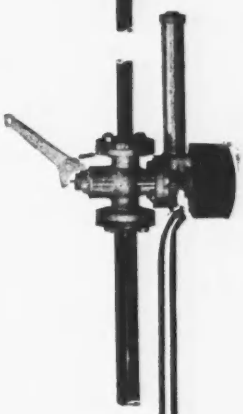
A 5000-watt electric plant weighing only 272 pounds has been announced by D. W. Onan & Sons, Inc., of Minneapolis, Minn. This model (5CK-115M) is one of a new, improved series of units recently developed by the company. This particular model is appropriate for use by fire departments in connection with flood lights and power tools. Mounted in a tubular-steel frame, this unit of aluminum construction may be carried by two men. It is powered by a 10 H.P., 2 cylinder, 4 cycle aircooled Onan engine, and is equipped with four or six-receptacle outlet box. Write to the manufacturer for descriptive catalog.

New Magnesium Hose Bridge

The White Aircraft Corporation of Palmer, Mass., recently placed on the market a hose bridge fabricated of magnesium. The bridge is said to combine great strength and durability with light weight and handling ease. A pair of these bridges is guaranteed to withstand the weight of the heaviest loaded truck and protect hose lines from damage. It will be noticed in the illustration above that each bridge is fitted with a handle for convenient carrying. The bridge is 24 inches in width and weighs 17½ pounds. Further information and prices may be obtained from the manufacturer.

A Complete
ALARM SYSTEM
For Volunteer Fire Departments





THE GAMEWELL FIRE ALARM SYSTEM, designed especially for the smaller communities is characterized by its reliability, simplicity, low initial and maintenance costs — and Speed.

THE DIAPHONE HORN provides coded signals *directing your firemen to the scene of fire* — or your own siren or other public alarm may be utilized.

DIAPHONE HORN
Operated by Compressed Air
The Circuit is shown connected with the Electric Control Valve.

Installation is simple — we supply complete directions.

Write for new Booklet
"It Can Happen Here"

GAMEWELL FIRE ALARM BOXES
Connected In Series
In Closed Metallic Circuit

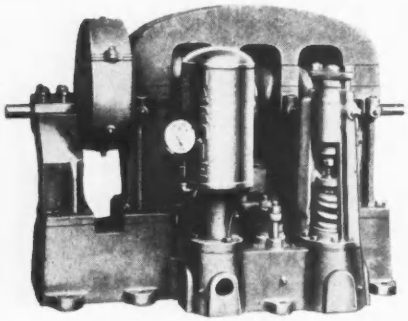
110 VOLT A.C.

GAMEWELL CONTROL UNIT
VITAGUARD SYSTEM

With Self-Winding Register — Manual Transmitter for Sounding Alarms Received By Telephone — Control Switches — Test Switches and Instruments — Batteries, Rectifiers and Line Terminals Mounted Within the Cabinet.

THE GAMEWELL COMPANY
Newton Upper Falls, Massachusetts

● The dependable Hardie pump is the heart of this magnificent Fog Fire Fighter built for the Catawissa, Pa. Fire Department by Howe Fire Apparatus Company.



● The Hardie Imperial LCXA Pump delivers 60 gallons per minute at 800 P. S. I. at 130 R. P. M.

● The Hardie Imperial XCXX Pump delivers 35 gallons per minute at 800 P. S. I. at 118 R. P. M.

The Hall-Mark of a Dependable Fog Fire Truck

If there is a Hardie High Pressure pump in your Fog Fire Fighter you can rest easy. That pump will not fail you. 800 PSI, and the gallonage you want will be delivered at the fog nozzle steadily, continuously and without faltering no matter how long the hose line.

The Hardie Fog Gun with single trigger control, saves labor, time and trouble delivering the stream or fog you want by mere pressure of the fingers. Specify Hardie pumps and gun. Write for complete data.

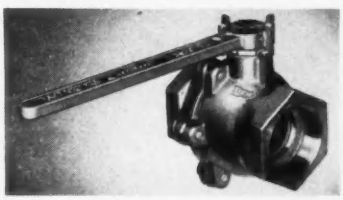
THE HARDIE MANUFACTURING COMPANY
Los Angeles 11, Calif. HUDSON, MICH. Portland 9, Oregon
Canadian Office, C. W. Lewis, Grimsby, Ontario
Export Dept., Detroit 26, Mich.

H·A·R·D·I·E
High Pressure **PUMPS AND FOG GUNS**
for Fog Fire Fighters

MANUFACTURERS' ANNOUNCEMENTS

Rockwood's New Valve

An interesting outgrowth from the famous Waterfog nozzle of the Rockwood Sprinkler Co. is the new Ball Type Valve developed by the Company for control of fluids in pipe lines. This new valve is completely different from the conventional globe and gate valves, and embodies the same floating bronze ball with unrestricted flow area that has proved itself in Rockwood Waterfog nozzles. The valve is made of bronze in all pipe sizes from ½" to 2" for 150 p.s.i. working pressure.



FOR SALE
1929 Sanford Fire Truck
Engine Model No. 60
600 GPM Triple Combination Pumper
New Providence, N. J., Fire Dept.
Linden Adams, Secy.

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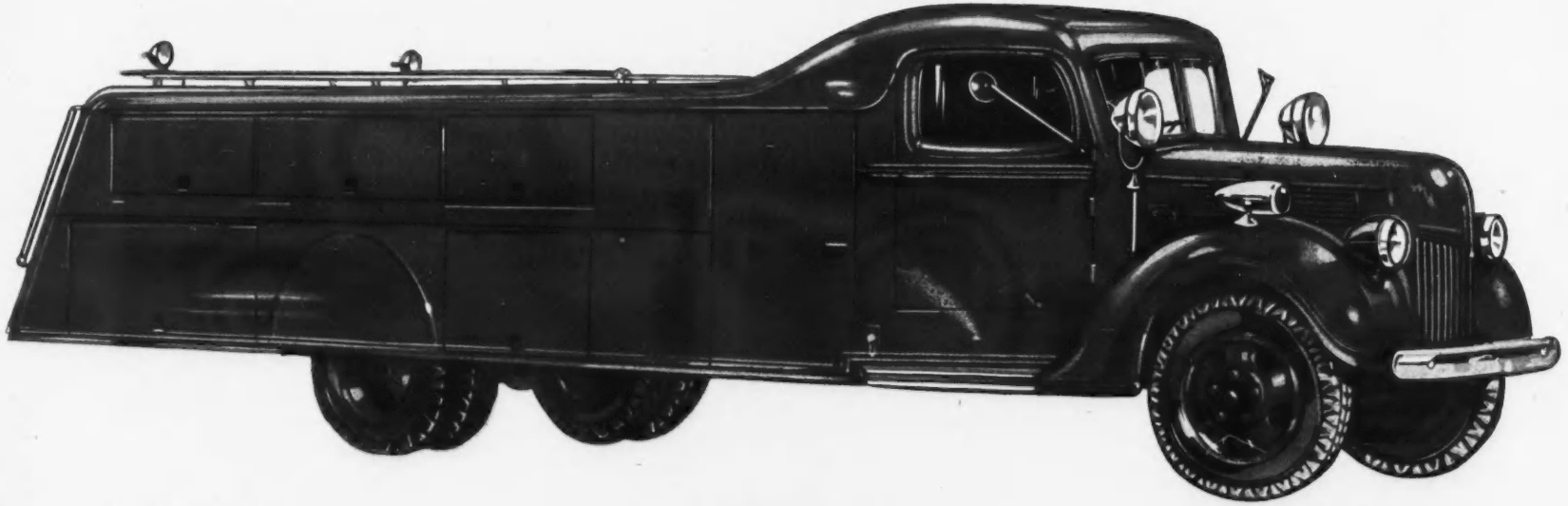
DARLEY CHAMPION 145 — TYPE S500 PUMP

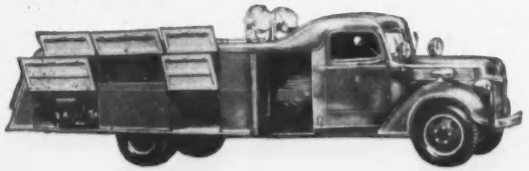


COMPLETE FLOODLIGHT EQUIPMENT

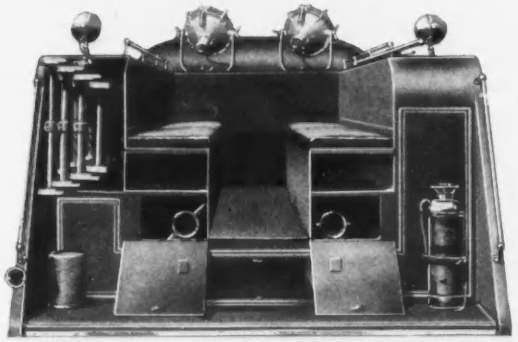
A compartment is provided in the right side of the body at the rear to carry the portable electric plant. The two floodlights can be carried on a special mounting platform in back of the cab or in a compartment.

ALL EQUIPMENT FULLY ENCLOSED

This body is designed and constructed with ten compartments, all extra large, so that everything can be carried safe against the weather, dust and loss or damage. Body width 91 inches. Can be built on any chassis with wheelbase up to 200 inches.



Write for NEW Fire Apparatus Booklet



SEATING CAPACITY FOR 8 MEN

Ample room for 4 men on each side with generous aisle space for speedy entry and exit. The seats lift up so that the compartments below can be loaded with fire hose. Suction hose, 4 lengths if desired, carried in compartments where it is instantly accessible. Extension ladders and roof ladders carried in completely protected compartment in left side of body.

3 MAN CAB

Special custom cab, extra wide to carry three men. Streamlined with the body; rugged allsteel construction. Spring cushioned seat and back rest. Removable cushions, covered with fabricated weatherproof material, far more durable than leather. Pump controls totally enclosed yet instantly accessible thru full length door directly in back of cab. Booster hose carried in bed or on reels directly above pump—both lines always live and either one or both can be pulled out for quick booster streams.

W. S. DARLEY & CO.

ESTABLISHED 1908 — CHICAGO 12, ILL.

John BEAN HIGH-PRESSURE

FOG FIRE FIGHTERS

SEVEN BEAN FOG FIRE FIGHTERS, *one week's delivery to: (left to right) Graettinger, Iowa; Rio, Illinois; St. Helen, Michigan; Salem, Michigan; Apalachin, New York; Rock River, Illinois; and Belgium, Wisconsin. Each carries its own water supply—provides two guns of 30 gallons each—850 lbs. pump pressure. Each delivered complete with all accessories.*

The right selection, when it comes to choosing a fire truck for a community, is a great responsibility for every member of the committee in charge.

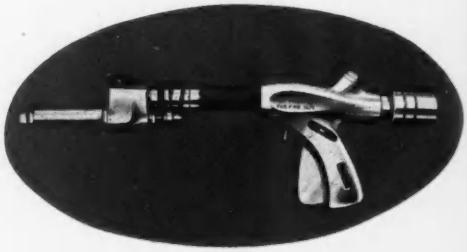
First of all, the safety of the people and the protection of their property must be taken into consideration. Every possible care must be taken to safeguard these interests.

The committee owes it to the community to see that the fire truck selected is one which offers the most in fire protection, based on the requirements of the area to be served.

Bean High-Pressure Fog Fire Fighters give maximum protection with minimum fire loss and practically no water damage.

UNDERWRITERS' LABORATORIES APPROVED

The patented Bean Fog Gun. Operated at high water pressure, it gives every type of fog pattern for fire fighting. Light and easy to handle, one man can operate it.



BEAN *Original* HIGH-PRESSURE FOG FIRE FIGHTER

CAN BE MOUNTED ON MOST STANDARD TRUCK CHASSIS

FOOD MACHINERY CORPORATION

JOHN BEAN MFG. CO. 726 HAZEL ST., LANSING 4, MICH. : BEAN-CUTLER DIVISION, 426 JULIAN ST., SAN JOSE, CALIF.

BUILDERS OF BEAN HIGH-PRESSURE PUMPS FOR OVER 60 YEARS